

Sea Level Rise Adaptation & Response Planning for Maryland State and Local Governments

Zoë Johnson

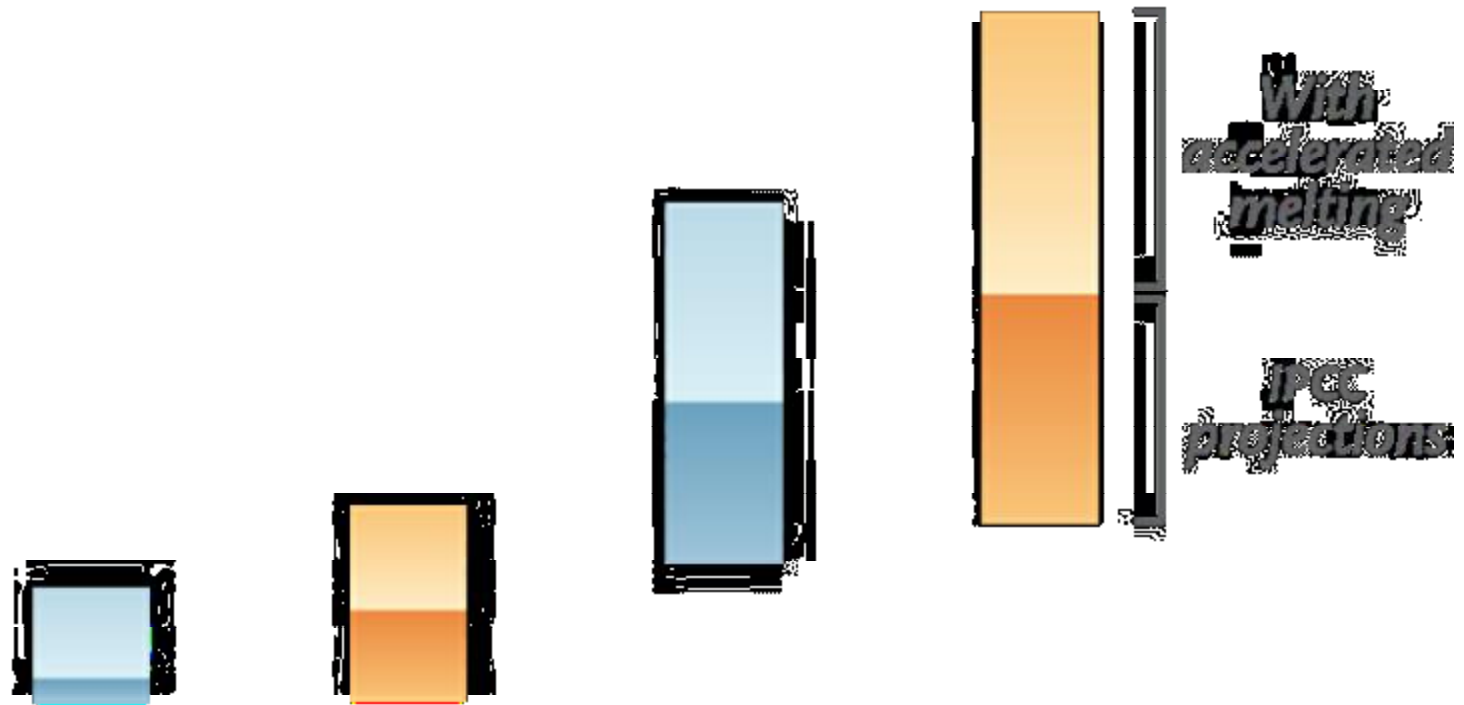
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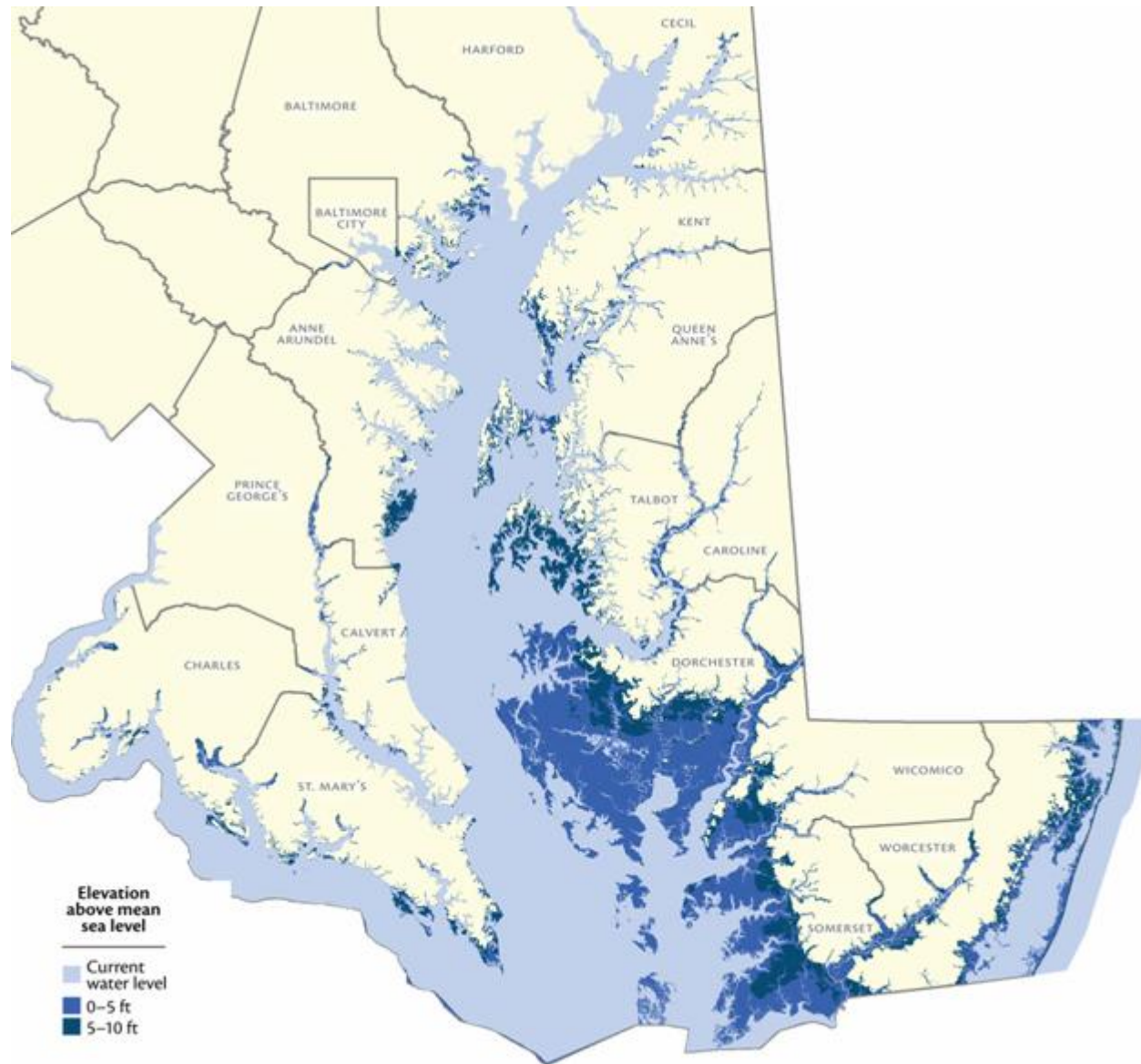
Relative Sea Level Rise



Sea Level Rise Projections

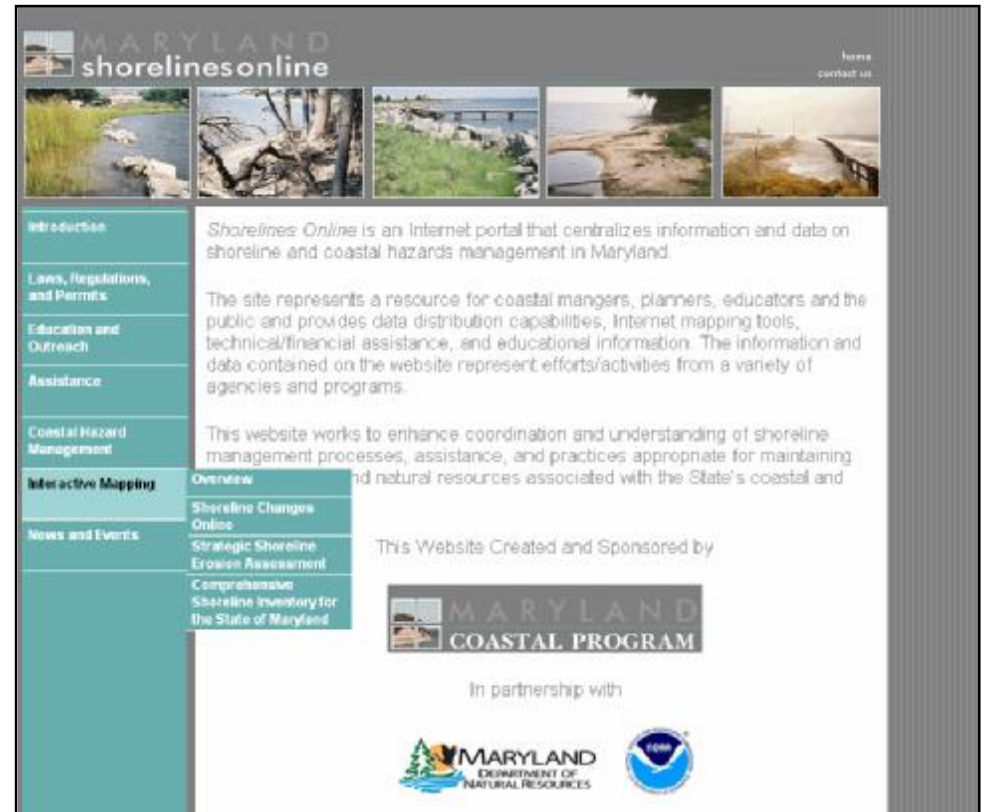


Sea Level Rise Vulnerability



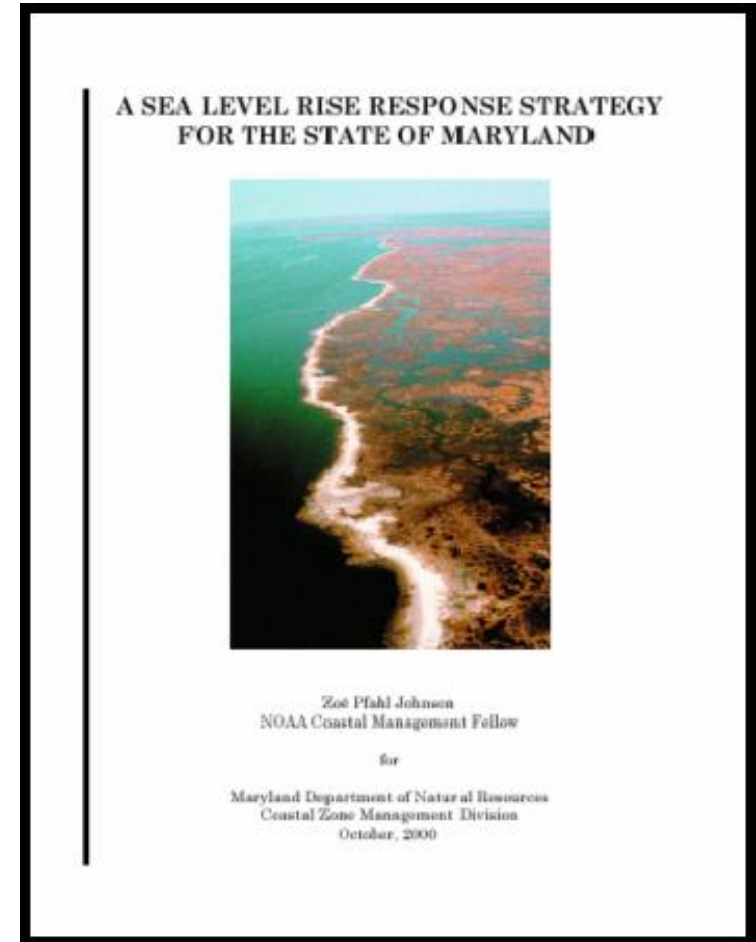
Technology, Data & Research

- High Resolution Topographic Mapping (LIDAR)
- Economic Cost of Sea Level Rise Study
- Shoreline Erosion and Change Mapping
- Comprehensive Shoreline Inventory
- Sea Level Rise Modeling: Worcester & Dorchester
- State-wide Sea Level Rise Vulnerability Mapping



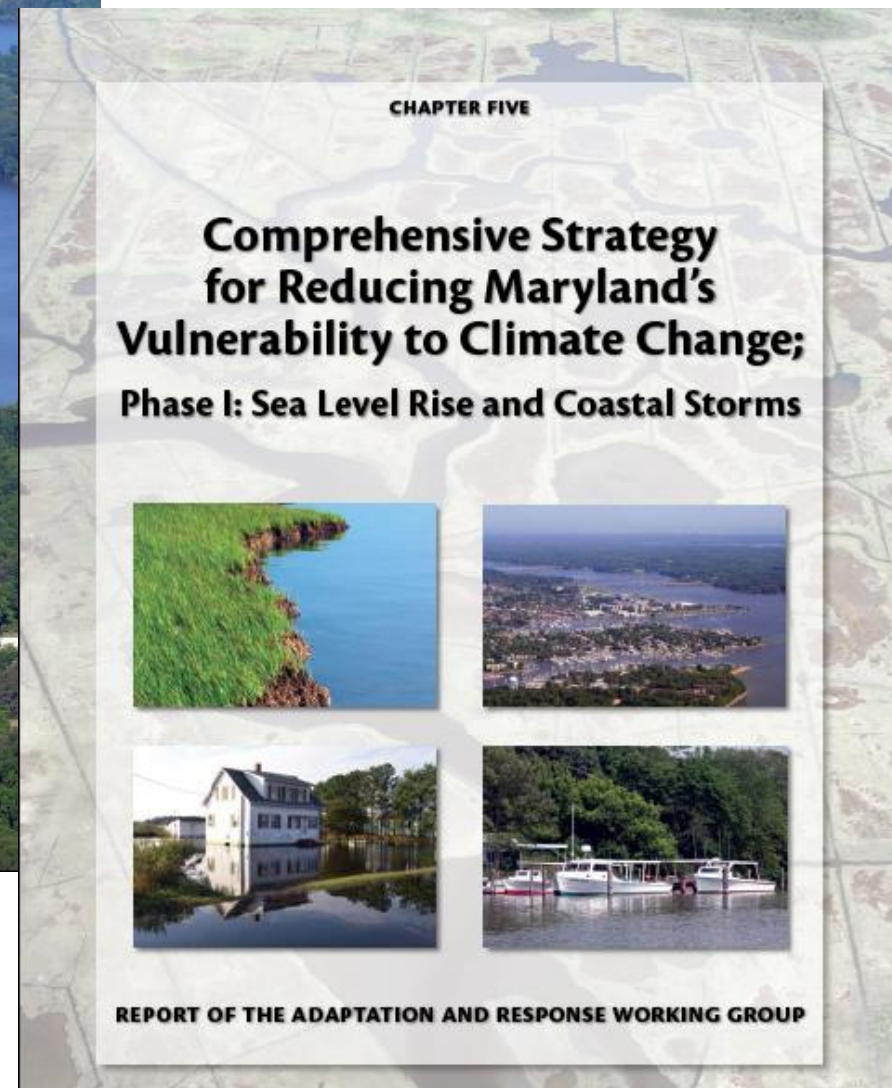
Sea Level Rise Planning & Policy

- Sea Level Rise Response Strategy (2000)
- Shore Erosion Task Force Final Report (2000)
- MD CZMA §309 Strategy (2000 & 2006)
- Coastal Communities Initiative (2004)
- Living Shoreline Protection Act (2008)
- Chesapeake & Coastal Bays Critical Area Amendments (2008)
- Maryland Climate Action Plan (2008)





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Adaptation & Response Planning Sectors

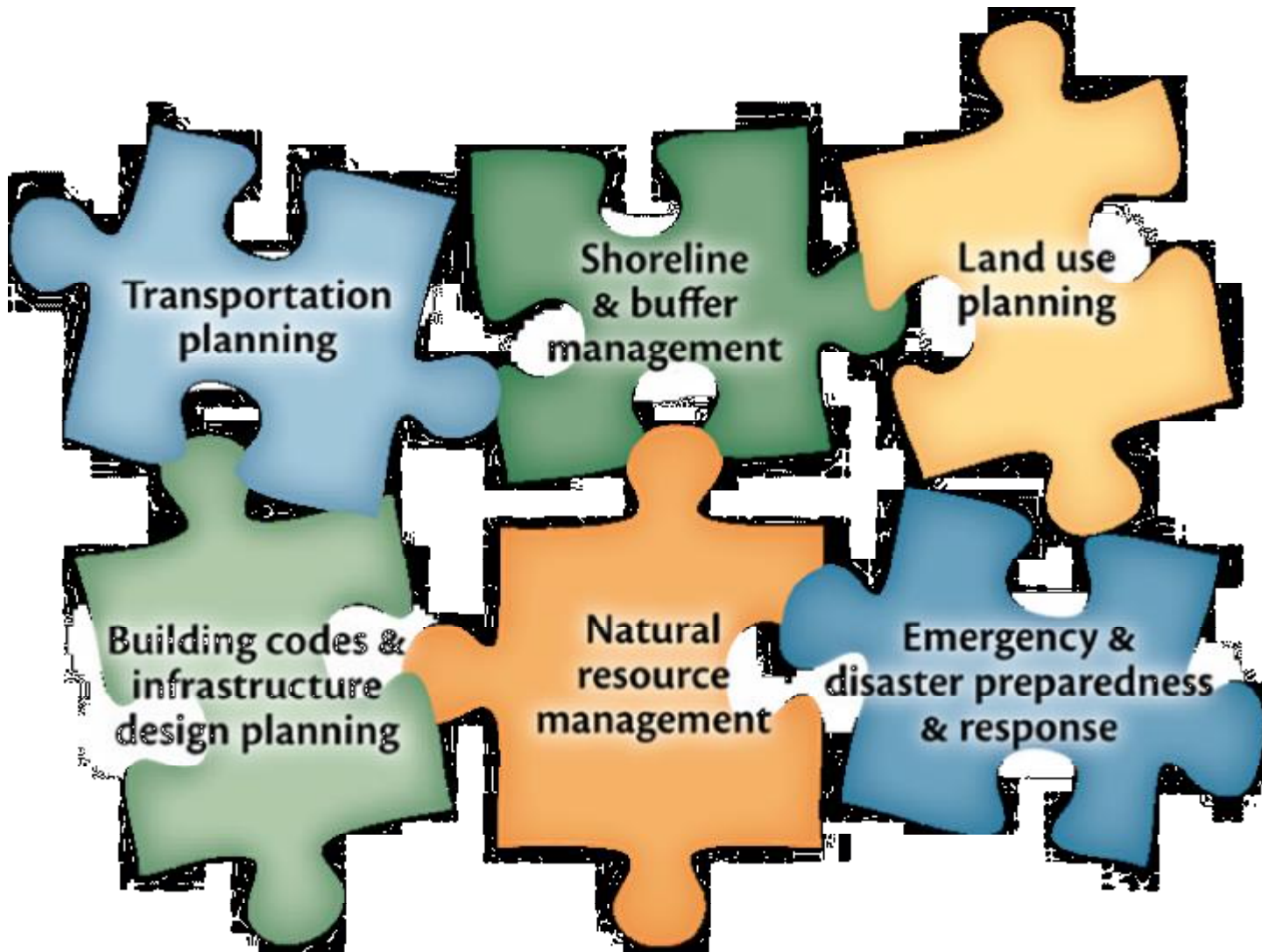
Existing Built
Environment &
Infrastructure

Future Built
Environment &
Infrastructure

Human Health, Safety
& Welfare

Resources and
Resource-Based
Industry

Sea Level Rise Planning Puzzle



Vision for the Future

Protect Maryland's future economic well-being, environmental heritage & public safety



Promote programs and policies aimed at the avoidance and/or reduction of impact to the existing-built environment, as well as to future growth and development in vulnerable coastal areas



Shift to sustainable economies and investments; and, avoid assumption of the financial risk of development and redevelopment in highly hazardous coastal areas



Enhance preparedness and planning efforts to protect human health, safety and welfare

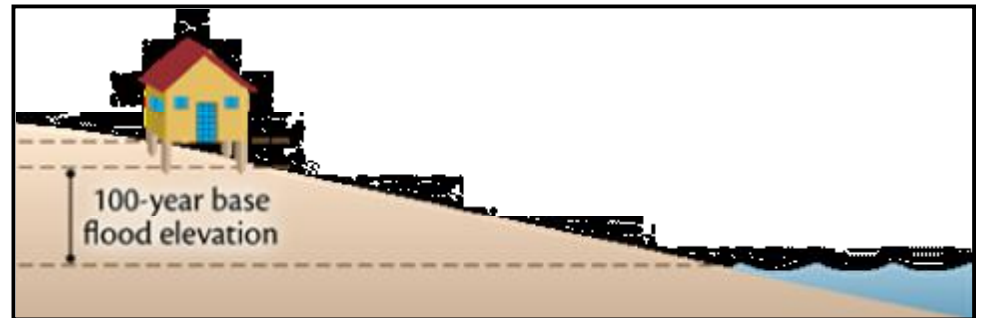


Protect and restore Maryland's natural shoreline and its resources, including its tidal wetlands and marshes, vegetated buffers, and Bay Islands, that inherently shield Maryland's shoreline and interior

Existing and Future Growth & Development

Take action now to protect human habitat & infrastructure for future conditions

- Integrated Planning for Sea Level Rise
 - Local Governments
 - Comprehensive Plans, Zoning Codes & other Land-Use Ordinances
 - Hazard and Floodplain Mitigation Plans
 - State “Lead by Example”
 - State Development Plan
 - “Lead by Example” Executive Order
- Adaptation of vulnerable coastal infrastructure
 - Protect, Retreat & Abandon
- Building code revisions & infrastructure design standards



Human Health Safety & Welfare

Guarantee the safety and wellbeing of citizens in times of foreseen and unforeseen risk

- Strengthen coordination across Agencies responsible for human health and safety
 - Improve link between comprehensive and emergency response planning
- Health impact assessments
- Vector-borne surveillance and control programs



Financial and Economic Impact Avoidance

Minimize risks and shift to sustainable economies and investments

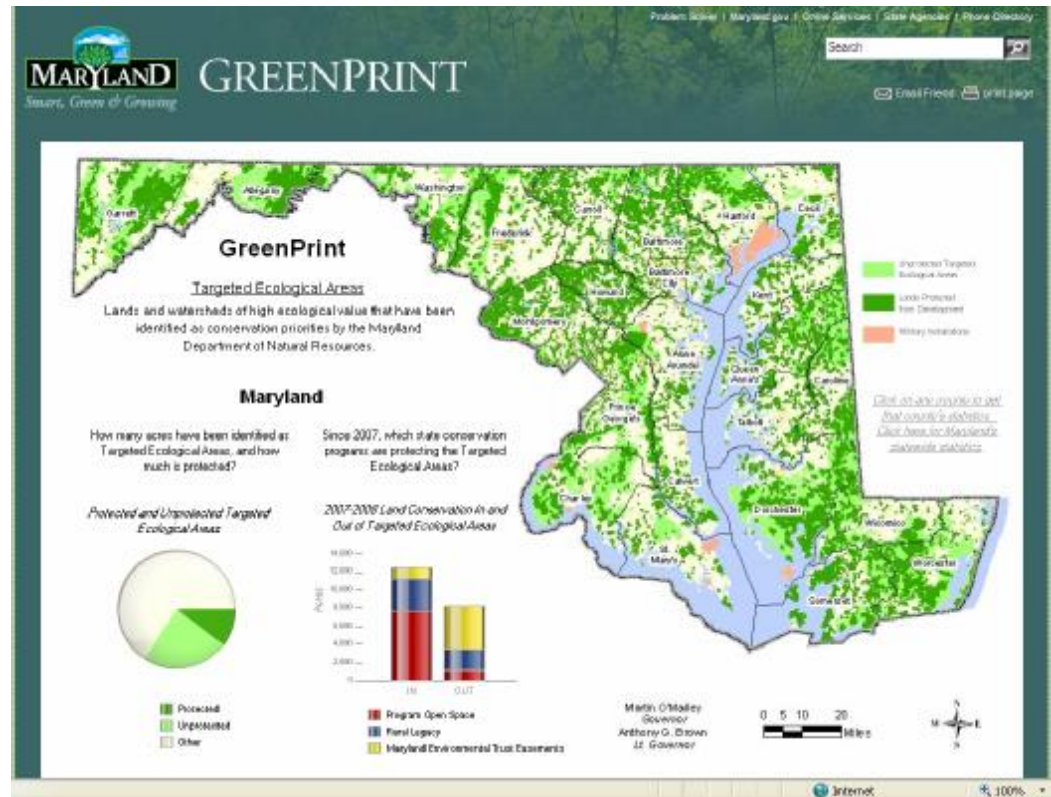
- Resource-based industries economic initiative
- Climate change insurance advisory committee
- Public disclosure
- Economic development initiative



Natural Resource Protection

Retain and expand forests, wetlands, and beaches to protect us from coastal flooding

- New Criteria for Priority Protection Areas
- Forest and Wetland Protection
- Sustainable Shorelines & Buffer Area Mgmt. Practices
 - Living Shoreline Protection Act of 2008



Adaptation & Response Toolbox

Give State and local governments the right tools to plan for sea level rise



- Integrated Observation Systems
- GIS Mapping, Modeling & Monitoring
- Public Awareness, Outreach, Training & Capacity Building

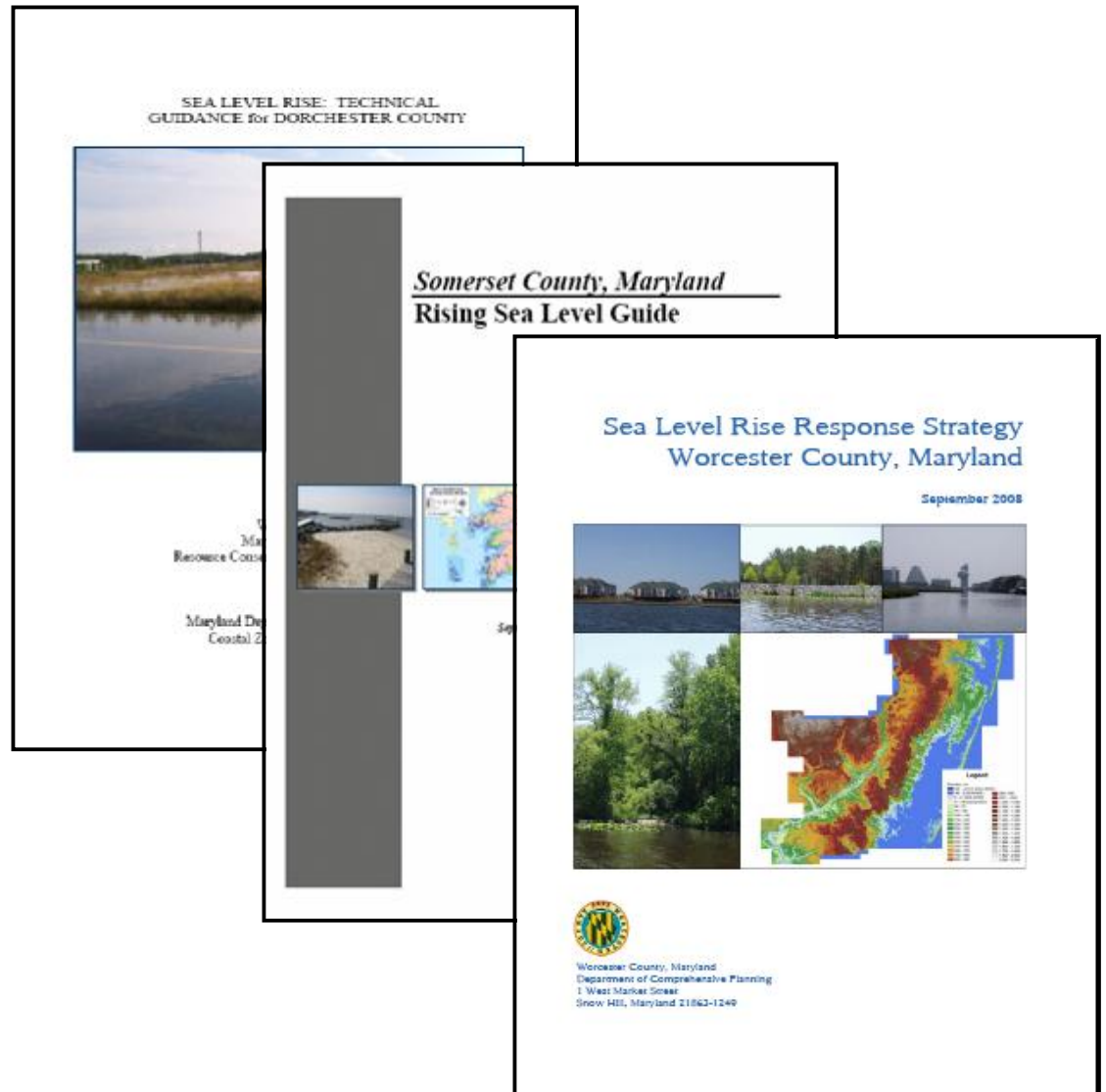




Future Steps & Directions

Progress will take time, resources and commitment

- Local Government Guidance
- Adaptation-Stat
- Future Adaptation Strategy Development



Building Coast-Smart Communities in Maryland

**A Simulation Exercise to Promote
Community Implementation of
Climate Action Plan Recommendations**

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Picture: Jane Thomas, UMCES



Contact Information

Zoë P. Johnson
Office for a Sustainable Future

zjohnson@dnr.state.md.us
(410) 260-8741



Picture: Wanda Cole